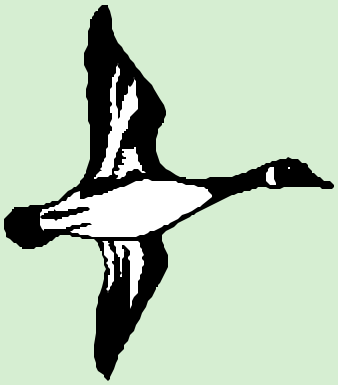


We can have it all:

Water Quality Protection

&

Canada Goose Exclusion

The Problem

- 60% of today's water pollution is the result of Nonpoint Source Pollution (NPS).
- Shorefront lots are the last line of defense for water quality protection
- There is over development of shorelines property

And

- There is an increasing Canada goose population utilizing developed shoreline property resulting in complaints of goose feces and other unpleasant issues.

Goose feces spoils public recreational sites. Here there is goose feces on the side walk and the play ground.

Lawn's allow polluted runoff to be easily washed into nearby streams and lakes, and they provide good goose habitat.

The steeper the slope the more pollutants the water can carry (fast water is hungry water).

The lack of a complex woody root system, frequently results in an unstable shoreline.

Smooth, fertilized lawns are a lake's enemy, but are a dinner table for geese.

What needs to be done

- Reduce the amount of polluted runoff from shorefront property
- Filter the stormwater that does runoff
- Decrease the habitat value for Canada geese

The Solution = a Vegetated Buffer

A buffer can be natural or constructed

Landscape buffers work well where aesthetics and politics require a more ‘organized’ look.

The ideal shoreline. A mix of vegetative layers, root systems holding the shore and poor goose habitat.

Simply stop mowing and letting it grow can result in a nice ‘wild’ buffer with native flowers and trees.

Important elements to a buffer

- A variety of vegetative layers (trees, shrubs & herbaceous) - for water quantity, quality and goose deterrent
- Duff layer - for water quality
- Preferably 25 feet deep or greater - for water quality (the steeper the slope the greater the depth should be)

The Portage Lake Project

Concerned residents of Portage Lake conducted a watershed survey identifying the various sources of NPS pollution to their lake.

A large fine gravel parking area sloped toward the lake. A large grassy area to the water and a 700+ foot shoreline. Were identified as a source of NPS pollution.

In addition, the geese loved to graze and mess on the beach which had significantly impacted its' recreational value.

The Issues

- Traditional Beach, used by both local residents and tourists
- Change is hard
- Needs to look good - fast
- Plants are expensive
- Who is going to plant?

What they did & Why it worked

- Applied for and received an Outdoor Heritage Grant for $ 21,755.00
- Hired a landscape architect who did 3 designs
- Had the town residents vote, after the town meeting, on the design they liked best (working at getting by-in for the change)

- Solicited match from local contractors and businesses,and the high school green house program

- Used volunteers to plant - lake association members, girl scouts, and residents

The Project

Permits were obtained from DEP for earth work.

Earth Work Preparation began in May.

Design Features

Winding Walk-ways

Mounded up - to hold water behind for slow filtering -

AND to help block goose's view of lake (escape).

Used bark mulch to simulate duff layer

Used flowering plants to increase eye appeal, and spreading plants so that the buffer would fill in.

Used a variety of plants - and layers (trees, shrubs, herbaceous)

A goose’s view from the water

Goose’s view from shore

In the end …

- Portage has a 700+ foot buffer that filters the stormwater runoff from their parking area &
- An effective Canada goose deterrent
- Portage received the Governor's Environmental Excellence Award for this project!

Places for funding:

- In Maine, the Outdoor Heritage Fund.
- Clean Water Act Section 319 funds, administered by each state environmental agency.
- For streams - fishing associations including Trout Unlimited, if the planting will also creates shading.
- Drinking water districts if the water body is also a drinking water supply.

And Information

- Maine DEP - Buffer Planting Guide (available off the web - or see me)
- USDA - NRCS offices
- USDA - Forest Service
- Cooperative Extension
- National Wildlife
- US Fish & Wildlife

UMCE Bulletin #2500

Gardening to Conserve Maine's Native Landscape:

Plants to Use and Plants to Avoid

Bearberry

UNIVERSITY OF MAINE
Cooperative Extension

NATIONAL PARK SERVICE

Sebago Lake

Watershed News

Published by the Portland Water District

INSIDE THIS ISSUE

SPECIAL EDITION RE-PRINT
August 1995

LAKES LIKE LESS LAWN

(Or Environmental Landscaping For Water Quality)

If you live or summer on one of Maine's lakes, you may be surprised to discover that traditional landscaping ideas have no place there. Manicured lawns extending to the water's edge, along with the fertilizer and pesticide applications required to maintain them, can have serious negative impacts on lake water quality.

More surprising still — it turns out that you don't have to live at the water's edge to impact water quality. Homes and camps that are many feet back from a lake can drain chemicals downslope.

Negative impacts from both shoreline and uphill residences can be minimized with a landscaping plan that places less emphasis on lawns and incorporates a variety of plants adapted to conditions near the water's edge. Lawns can be redesigned to allow a buffer zone along the lake. Careful landscape design can actually increase the value of your property as well as keep the lake water you enjoy clear and clean.

Here are some suggestions for getting started.

LANDSCAPING FOR ESTABLISHED YARDS

STEP 1: RELAX AND STOP MOWING.

Stop mowing down to the water. Let the existing grass grow long — it will help filter pollutants from rainwater while you're working on your other plantings. The grasses will grow 12 to 24 inches tall before going to seed. Carefully preserve any and all existing natural vegetation at the edge of the lake.

Cont. on page 2

Sebago Lake Wat

PhD Source Prot & Visitor Cent

Many of our protection efforts a out from our Lak We're located in S the intersection of and 237. Call us (774 stop by for informat our programs.

VEGETATED PHOSPHORUS BUFFER STRIPS

Figure 1: Vegetated buffer strip. *(Illustration courtesy of Portland Newspapers)*

What Are They?

Vegetated phosphorus buffer strips are areas of natural vegetation which have been left undisturbed or are replanted to naturally existing species. These vegetative buffer strips are composed of trees, shrubs, bushes and a thick duff layer (pine needles, bark mulch, etc.).

Why Do We Need Them?

Where there are humans, there is nutrient pollution. The way we live tends to over-nourish and pollute our environment. Fertilizers wash down over our carefully graded lawns directly to the lake. The oils and greases from our cars are rinsed off our driveways and roads down to the lake. We rest and play along the lake and our foot traffic tramples the vegetation. We park our cars and launch our boats as close as possible to the lake – our heavy vehicles compact the earth until it's as hard and impenetrable as asphalt. Our lifestyles are hurting the lake.

Vegetated buffers provide a filter and percolation area for the runoff that comes from our home and play areas. The vegetation in the buffer uses the nutrients carried in the stormwater as fertilizer. If the nutrients reach the lake, the aquatic plants will use them and an algae bloom can occur.

Vegetated buffers are designed so that the nutrients are used by land vegetation rather than by lake algae.

If you own property on Sebago Lake, the water quality of the lake directly impacts you. If water quality deteriorates, the value of your property decreases. Boating and swimming through pond scum becomes less attractive. Fish populations can decline or be killed off completely.

Most residents of the Greater Portland area are also directly impacted by Sebago Lake water quality - their supply of public drinking water. Algae growth causes taste and odor problems. Correcting such problems will require increased costs to consumers.

Where Should Buffers Be Located?

Vegetated buffers need to be placed between people and the lake. We need to filter the stormwater runoff from our houses, garages, driveways, roads (both paved and gravel), and road ditches through flat vegetated areas. Lakeside parking areas and playing fields should drain through a buffer too.

Equally important are the streams which flow into the lake. They also need to be protected by leaving vegetated buffer strips next to them.

Figure 2 illustrates how buffers should be positioned.

Take Advantage Of Natural Features.

- Leave the depressions and irregularities in your lawn. Don't grade it to drain directly to the lake.
- Don't mow down to the edge of the lake. Leave as much shrub and tree growth as possible between the lawn and the lake.
- If you have flat wet spots on your property, use them. Deliberately filter roof, driveway or road runoff water through them. Don't mow these areas - let them grow up naturally.

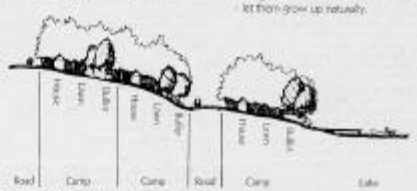
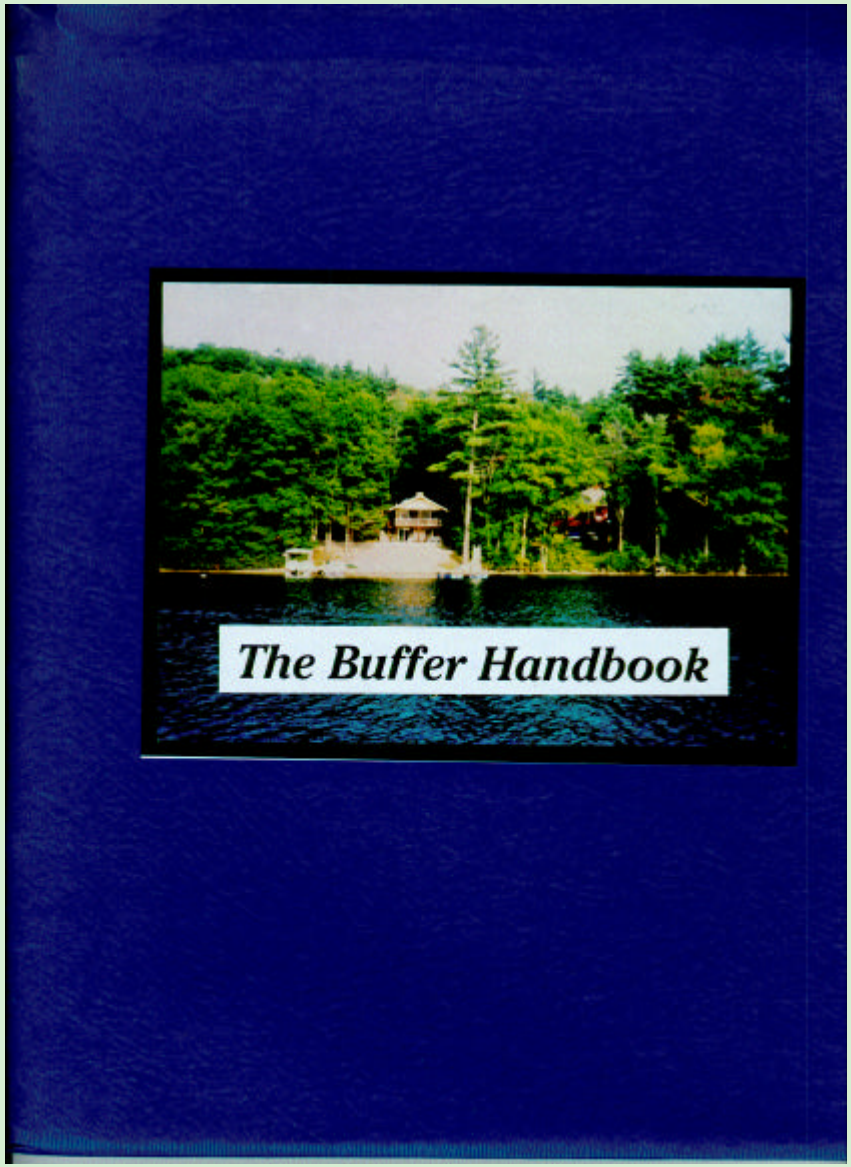


Figure 2: Buffer location.
You don't have to live at the water's edge to impact water quality. Buffers located downslope from residences and roadways help take up pollutants from upland areas that drain to the lake.



Habitats

A Fact Sheet Series on Managing Lands for Wildlife

Principles for Creating a Backyard Wildlife Habitat

Bulletin #7132

It's easy to create a landscape for your own enjoyment and, at the same time, provide for the needs of wildlife. This fact sheet will introduce you to nine principles that will help you do just that: the four basic wildlife needs; function and form; diversity; seasonality; arrangement; protection; native plants and seed origins; climate and plant hardiness zones; and soils and topography.

The Four Basic Wildlife Needs: Food, Water, Cover and Space

Food: Food supplies energy and nutrients. Each wildlife species has its own nutritional needs, which change from one season to another and as an individual animal goes through its life cycle. Your plantings can provide a variety of foods, such as fruits and berries, grains and seeds, nuts and acorns, browse plants which include twigs and buds of shrubs and trees, forage plants which include grasses and legumes, and aquatic plants. Insects and other invertebrates, attracted to flowers, shrubs and trees, are also food for wildlife. Grit is used by many birds as part of their digestion. Flowering plants first provide nectar, then seeds or fruits. In some instances, the same plants hold their seed or fruit into fall or winter.

Water: This is essential to all forms of life. If you have a watery habitat on your property, preserve it. If not, consider how you might provide water. You might create a pond or use birdbaths as a source of water in your yard. Heated birdbaths

UNIVERSITY OF MAINE Cooperative Extension

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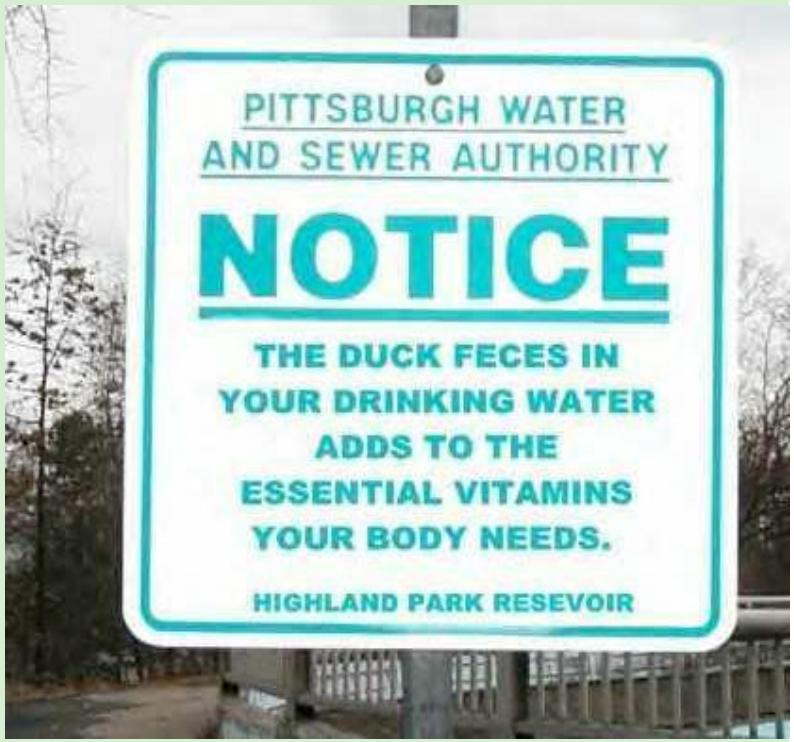

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